Notice of Allowability	Application No.	Applicant(s)	
	10/735,085	LIN, CHIHLUNG	
	Examiner	Art Unit	
	HUNG Q. PHAM	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *09/11/06*.

2. ☒ The allowed claim(s) is/are *1,3-11 and 13-20*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *11/22/06* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Hung Pham
Examiner
AU 2168

EXAMINER'S AMENDMENT

- An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicants' representative, YASUO MURAMATSU, on 11/09/2006.

- In the Claims filed 09/11/2006, please:

REPLACE claims 1, 3-11 and 13-20 by the clean version (without strike-through and underlining markings), which was amended by the examiner as below:

Claim 1. ***A data representation and retrieval method, comprising the following steps of:***

providing a primary data file which stores a large volume of recorded data where a location of each piece of recorded data is represented by an offset value;

providing a secondary data file which stores supplemental data for assisting to search and retrieve the recorded data from the primary data file;

receiving a query specified by a user;

accessing the secondary data file to retrieve supplemental data corresponding to the received query; and

accessing the primary data file at locations specified by offset values derived from the retrieved supplemental data and retrieving the recorded data that corresponds to the derived offset values;

wherein said retrieved supplemental data from the secondary data file includes a remaining count indicates the number of recorded data in the primary data file carrying search data corresponds to the received query, an offset value specifies the location of a first recorded data in the primary data file carrying search data corresponds to the received query, and a delta value indicates difference of locations between current recorded data and next recorded data in the primary data file carrying search data corresponds to the received query.

Claim 3. A data representation and retrieval method as defined in Claim 1, wherein said supplemental data for includes a first offset value showing a first location of the recorded data carrying the search data in the primary data file, and flag data showing whether or not the recorded data carrying the search data are consecutively located in the primary data file.

Claim 4. A data representation and retrieval method as defined in Claim 1, wherein said recorded data in the primary data file are arranged in an alpha-numeric order.

Claim 5. A data representation and retrieval method as defined in Claim 1, wherein said search data is a string of alphabetical and numeral characters, and wherein said supplemental data for search data is established in advance in the secondary data file.

Claim 6. A data representation and retrieval method as defined in Claim 1, wherein said step of accessing the primary data file includes a step of generating offset data based on the retrieved supplemental data from the secondary data file for accessing and retrieving the recorded data from the primary data file.

Claim 7. A data representation and retrieval method as defined in Claim 3, wherein said flag data further shows a number of consecutive locations when the recorded data carrying the search data are consecutively located in the primary data file.

Claim 8. A data representation and retrieval method as defined in Claim 6, wherein said step of generating the offset data includes a step of consecutively incrementing the offset data by a minimum incrementing step or jumping a difference of offset values based on the retrieved supplemental data.

Claim 9. A data representation and retrieval method as defined in Claim 2, wherein each of said offset values is described by four-byte data.

Claim 10. A data representation and retrieval method as defined in Claim 3, wherein said first offset value is described by four-byte data and said flag data is described by two-byte data, and wherein a most significant bit of the two-byte data shows whether or not the recorded data carrying search data are consecutively located in the primary data file.

Claim 11. A data representation and retrieval apparatus, comprising:

a central processing unit;

a data storage contains a primary data file which stores a large volume of recorded data where a location of each piece of recorded data is represented by an offset value, and a secondary data file which stores supplemental data for assisting to search and retrieve the recorded data from the primary data file;

means for receiving a query specified by a user;

means for accessing the secondary data file to retrieve supplemental data corresponding to the received query; and

means for accessing the primary data file at locations specified by offset values derived from the retrieved supplemental data and retrieving the recorded data that corresponds to the derived offset values;

wherein said retrieved supplemental data from the secondary data file includes a remaining count indicates the number of recorded data in the primary data file carrying search data corresponds to the received query, an offset value specifies the location of a first recorded data in the primary data file carrying search data corresponds to the received query, and a delta value indicates difference of locations between current recorded data and next recorded data in the primary data file carrying search data corresponds to the received query.

Claim 13. A data representation and retrieval apparatus as defined in Claim 11, wherein said supplemental data includes a first offset value showing a first location of the recorded data carrying the search data in the primary data file, and flag data showing whether or not the recorded data carrying the search data are consecutively located in the primary data file.

Claim 14. A data representation and retrieval apparatus as defined in Claim 11, wherein said recorded data in the primary data file are arranged in an alpha-numeric order.

Claim 15. A data representation and retrieval apparatus as defined in Claim 11, wherein said search data is a string of alphabetical and numeral characters, and wherein said supplemental data for search data is established in advance in the secondary data file.

Claim 16. A data representation and retrieval apparatus as defined in Claim 11, wherein said means for accessing the primary data file includes means for generating ~~the~~ offset data based on the retrieved supplemental data from the secondary data file for accessing and retrieving the recorded data from the primary data file.

Claim 17. A data representation and retrieval apparatus as defined in Claim 13, wherein said flag data further shows a number of consecutive locations when the recorded data carrying the search data are consecutively located in the primary data file.

Claim 18. ***A data representation and retrieval apparatus as defined in Claim 16, wherein said means for generating the offset data includes means for consecutively incrementing the offset data by a minimum incrementing step or jumping a difference of offset values based on the retrieved supplemental data.***

Claim 19. ***A data representation and retrieval apparatus as defined in Claim 12, wherein each of said offset values is described by four-byte data.***

Claim 20. ***A data representation and retrieval apparatus as defined in Claim 13, wherein said first offset value is described by four-byte data and said flag data is described by two-byte data, and wherein a most significant bit of the two-byte data shows whether or not the recorded data carrying the search data are consecutively located in the primary data file.***

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

The closet available prior art, Wan (U.S. Publication 2003/0233618 A1), also teaches a method for searching. However, as in claims 1 and 11, Wan fails to teach or suggest the steps of ***accessing the primary data file at locations specified by offset values derived from the retrieved supplemental data and retrieving the recorded data that corresponds to the derived offset values; wherein said retrieved supplemental data from the secondary data file includes a remaining count indicates the number of recorded data in the primary data file carrying search data corresponds to the received query, an offset value specifies the location of a first recorded data in the primary data file carrying search data corresponds to the received query, and a delta value indicates difference of locations between current recorded data and next recorded data in the primary data file carrying search data corresponds to the received query***. Therefore, the invention is allowable over the prior arts of record for being directed to a combination of claimed elements including the providing steps as indicated above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the

issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIM T. VO can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HUNG Q PHAM
Examiner
Art Unit 2168

November 22, 2006